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FIRST RESULTS OF WORKING IN A NEW MANNER

- HYDROMETEOROLOGICAL SERVICE -

- USSR -

by L.P. Rozhkov

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FIRST RESULTS OF WORKING IN A NEW MANNER
- HYDROMETEOROLOGICAL SERVICE -

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Successful satisfaction of the ever-increasing demands put by the national economy on the hydrometeorological service depends first of all on good organization of the study of the hydrometeorological regime of the territory being served.

During recent years, the Main Administration of the Hydrometeorological Service has carried out important organizational measures, which facilitated an improvement of the investigation of the meteorological regime of the seas. MAHMS Order No. 10 of 19 March 1957, "On the state of and measures for the improvement of the operations of the marine hydrometeorological network," presented to the marine AHMS, observatories and marine stations the problem of a more profound study of the hydrological regime of the seas and their coastal area by means of an organization of purposeful thematic investigations.

In connection with the problems presented in the order, reorganization of the operations of the marine network and observatories was demanded. First of all, it was necessary to reason out plans for the rationalization of the marine network and of the thematic hydrological investigations in 1958-60.

Attaching great importance to this problem, specialists of the Hydrometeorological Observatory of the Black and Azov Seas, in developing of the plans, carefully studied the request of the national economic organizations and took into consideration the proposals of marine stations and the practice of marine investigations carried out on our seas. Projects of the plans were discussed at the plenary session of the Azov-Black Sea Basin section of the Oceanographic Commission with wide participation of representatives of different national economic organizations, the activity of which is related to the sea. These projects were also studied by the Technical Council of the Observatory and at a conference with the Chief of the AHMS USSR. Great practical assistance in the development of the

plans was rendered by the workers of the State Oceanographic Institute (SOIN).

Projects submitted in accordance with the MAHMS order were approved by the Scientific Council of the SOIN and confirmed by the MAHMS without any substantial changes. This has, basically, terminated the first part of the reorganization of operations of the observatory and of the marine network. However, the specialists of the observatory were fully aware of the fact that this is only the beginning and that much painstaking and difficult work in the organization and realization of purposeful thematic investigations is still ahead.

The second stage of the work began with the publication of MAHMS Order No. 16 of 12 February 1958, "On the plan of marine thematic investigations and the rationalization of the network of marine hydrometeorological stations in 1958-1960."

Great attention was given to organizational measures. A new division for the study of the marine hydrometeorological regime based on the liquidated interconnected groups at Feodosia and Genichesk was established at the Observatory. This has secured qualified leadership for the thematical investigations performed by the stations, meticulous control of the quality of observations, technical and methodical leadership of all types of observations, and the maintaining of inspection. The division has been in operation more than two years and it has been possible in that time not only to improve the operations of the network in regard to standard observations but to develop as well thematic purposeful investigations of the hydrological regime of the region serviced by each station.

Toward the end of 1958 the plan of the rationalization of marine network in the Black and Azov Seas was completely realized. Several posts and stations were closed, and some types of observations which did not have scientific and practical value discontinued. New posts were organized and some new types of observations were introduced into practice, particularly observations of the development and attenuation of storm swell, and measurement of wave elements during the dark part of the day and hydrochemical determinations were considerably expanded.

Much work was performed with respect to more precise determination of the location of the points of roadstead observations with the purpose of expanding their program. Detailed programs of hydrological surveys of the port, bay, and gulf regions were compiled, which are now being used by the stations for systematic observations. Work has begun in the field of a systematic study of the regime of the estuarial zones of the Danube, Dniepr, Kuban and Don rivers; the working programs and long-range plans of these investigations were developed with the active participation of the SOIN.

The Observatory has developed proposals in regard to the regulation of level observations and has submitted a presentation in substantiation of a scheme of standard cross-sections, which are to be made to establish the secular variability of the hydrological regime of the Black and Azov seas.

Special methodical instructions were compiled for marine stations to facilitate better organization of thematic investigations of the coastal zone of the Black and Azov Seas. They contained a short exposition of the problem of a comprehensive study of the hydrometeorological regime and concrete practical recommendations for the organization of various types of observations and other work. Observations by the instrumental method of the development and attenuation of waves, observations during the period of being in and out of phase, etc. should be pointed out among recommendations for the organization of thematic investigations.

In addition, the following work was performed by the Observatory:

- 1) programs of operations and plans of expeditionary investigations were developed for each marine station enlisted in thematic investigations;

- 2) programs and working plans were compiled for each theme investigated by marine stations;

- 3) specialists were selected from the Observatory to supervise the thematic work at the stations;

- 4) lists of recommended literature and of material that should be utilized in the thematic work were compiled;

- 5) probationary work of specialists of the first class marine stations was carried out by the observatory;

- 6) specialists from the Observatory regularly visit stations, where they conduct consultations on the themes and joint expeditionary investigations.

In carrying out these measures, the observatory put emphasis on stations of the first category, which have special hydrological groups, freed from standard observations and the operative work of the station.

For the training of the network personnel in the performance of expeditionary investigations and their familiarization with new oceanographic instruments, the Observatory in 1958-59 invited each year about 20 specialists from first-class stations to participate in different expeditions.

As a result of this practice, the majority of the "Observatory and first-class station personnel is now able to work with modern oceanographic equipment - EMIT, AFS, BPV, bathythermograph, GM-16 wavegraph; is capable of using the new method of measuring currents by means of a submerged parachute; and the personnel on all expeditionary vessels has become proficient in the placement of buoy stations for automatic operation.

It can be said without exaggeration that the personnel of the observatory and of the stations is now able to conduct independent complicated oceanographic expeditions. As a matter of fact, while the participation of a large group of personnel from central institutions was necessary in 1958 to launch a large-scale thematic expedition, in 1959 similarly difficult work was completed with the participation of only four members of the staff of the Central Forecasting Institute and the State Oceanographic Institute.

The personnel of marine stations has been enlisted in the generalization of the material of hydrometeorological observations accumulated over many years. According to a sample prepared at the Observatory, the marine stations have compiled a Short Hydrometeorological Reference Book for the region of the station by utilizing the materials of observations performed during the post-war period.

According to a joint plan approved by the MAHMS, the Yalta, Odessa, Feodosiya and Tuapse marine hydrometeorological stations of the first class are working on the generalization of all available materials on the hydrometeorological regime in the form of a hydrometeorological characteristic. The Opasnoye Station is working on the investigation of currents and is expected to submit the generalized material in 1960 in the form of an album of the currents in the Kerch Strait.

All of the listed stations began in 1958 to work on their themes and successfully realize the laid-out program.

The second-class Genichesk, Belgorod-Dnestrovskiy and Helendzhik stations were also drawn into participation in thematic investigations.

The main efforts of the observatory in 1958-59 were directed toward the compilation, under the supervision of the State Oceanographic Institute of Hydrometeorology, of a hydrometeorological reference book for the Sea of Azov. Most of the Observatory's specialists are taking part in the compilation of the reference book. Each specialist or a group of specialists is working on a particular chapter of the reference book.

The generalization of material according to the different sections of the hydrometeorological reference book has facilitated the discovery of deficiencies in the study of the hydrometeorological regime of the Sea of Azov. Thus was discovered the necessity of making special observations of swell in the regions of an open abyssal coast; supplementary material for the clarification of temperature conditions of the open sea during the period preceeding the appearance of ice was collected, and a series of actinometric observations from S.S. "Mgla" were completed in different regions of the open sea and in different seasons.

As the generalization of the materials for different sections of the reference book went along, it was possible to prepare several scientific articles, the majority of which were accepted for publication. Particularly, the development of the section on temperature regime has brought about the compilation of an atlas, which has been distributed among the local organizations of the fishing industry.

The work involved in the compilation of the hydro-meteorological reference book is serving all the specialists of the observatory as a very useful school of independent scientific investigation. The specialists are doing this job with great interest and display of initiative; the collective of the observatory in general accepts with great pleasure a transfer to scientific research work from the purely technical work of the compilation of annual reports, which was many years the main activity of the Observatory.

With the transfer to research work, which has to culminate in generalization and result in a certain production, the responsibility of the specialists for their work is increased. The research work provides the specialists with an opportunity to express initiative in their work and facilitates the broadening of their knowledge.

The Observatory will complete the work on the compilation of the reference book for the Sea of Azov in 1960 and will start working on a similar book for the Black Sea. To satisfy most completely the demands of the national economy, materials prepared as generalizations are already being given to different planning organizations. In this manner a gradual transfer is accomplished from the system of giving answers to many requests in the form of short statements (each time individually prepared from archive materials), to that of the transmission of up-to-date exhaustive generalizations on the hydrometeorological regime of our seas.

Two years of working in the new manner have convincingly demonstrated the fittingness of the problems presented to marine AHMS and observatories in MAHMS Order No. 44.

The collective of the Observatory and the personnel of the marine stations have a good understanding of these problems and they are convinced that they will solve them honorably.

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